

Appl. No. : 09/864,605
Filed : May 24, 2001

REMARKS

Claims 26–52 are pending in this application. In the July 21, 2003 Office Action, the Examiner rejected Claims 26–52 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,783,938 (“the Munson patent”) in view of U.S. Patent No. 6,265,717 (“the Sakata patent”). This Amendment amends Claims 26, 34, 41 and 48. Thus, it is believed that Claims 26–52 are patentably distinguished over the cited references, and Applicants respectfully request allowance of Claims 26–52.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)

The Examiner rejected Claims 26–52 under 35 U.S.C. § 103(a) as being unpatentable over Munson in view of Sakata.

Claims 26–33 and 41–52

Focusing in particular on amended independent Claim 26, in one embodiment of the Applicants’ invention an apparatus is disclosed comprising, among other elements, (1) a first tube that is configured to isolate a portion of a semiconductor wafer and (2) a peristaltic pump configured to direct a liquid, dispensed on the isolated portion of the wafer, to an analyzer. The peristaltic pump directs the liquid such that the analyzer is able to measure an etch depth, as a function of time, at the isolated portion of the wafer.

The combination of Munson and Sakata does not teach an apparatus that is configured to isolate a portion of a semiconductor wafer and measure as a function of time an etch depth at that portion. Rather, Munson discloses an apparatus and method for determining the cleanliness of an area on an electronic circuit assembly. In particular, the Munson apparatus uses a test cell to “to measure the corrosivity (electromigration) effect of the residues removed from a specific area on the hardware surface” (Col. 3, lines 28–30). Munson neither discloses an apparatus for testing a semiconductor wafer, nor does Munson teach an apparatus configured to measure an etch depth at the isolated portion of the wafer.

Sakata appears to disclose an apparatus for plasma mass spectrometry that is used to analyze inorganic elements existing in a particular liquid sample. Sakata does not disclose an apparatus for testing an isolated portion of a semiconductor wafer. In

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addition, the apparatus in Sakata is not configured to measure an etch depth, as a function of time, at the isolated portion of the wafer.

Because the combination of the references cited by the Examiner does not disclose, teach, or suggest an apparatus that is configured to isolate a portion of a semiconductor wafer and measure as a function of time an etch depth at that portion, Applicants assert that amended Claim 26 is not obvious in view of Munson and Sakata. Therefore, Applicants respectfully submit that amended Claim 26 is patentably distinguished over the cited references and respectfully request allowance of amended Claim 26.

Amended independent Claims 41 and 48 are believed to be patentable for similar reasons and for the different aspects recited therein.

Claims 27–33, 42–47 and 49–52, which depend from Claims 26, 41 and 48 respectively, are believed to be patentable for the additional features recited therein.

Claims 34–40

Amended independent Claim 34 is directed toward an embodiment of the invention disclosing a test system for evaluating an isolated portion of a semiconductor wafer, the testing system comprising: (1) a sampling apparatus having an inner tube and an outer tube and (2) a transfer tubing having a first end connected to an outer wall of the outer tube. The transfer tubing is configured to transfer a portion of a liquid from the sampling apparatus to an analysis system.

Neither of the two cited references, nor a combination thereof, teaches an apparatus comprising a transfer tubing having one end attached to an outer wall of an outer tube, wherein the outer tube is part of a sampling apparatus. Munson seems to disclose embodiments of a testing apparatus (see Figures 1 and 2) in which a fluid transfer line (27, 32) and an extraction shell (11, 31) have parallel axes. The end of the fluid transfer line is located within an interior area of the extraction shell and is not attached to any wall of the extraction shell. Thus, Munson does not disclose a system comprising a transfer tubing having one end attached to a wall of a sampling apparatus tube.

Sakata also does not teach a testing system as disclosed in amended Claim 34. With particular reference to Figure 1, Sakata shows a sample uptake system (110)

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configured to transfer a liquid sample (112) through a peristaltic pump (111). The end of the transferring means is positioned within the liquid sample (112) and is not attached to anything. Thus, Sakata does not teach a transfer tubing that is connected to an outside wall of a sampling apparatus tube.

Because neither of the cited references, nor a combination thereof, discloses teaches, or suggests a system for testing a portion of a semiconductor wafer wherein a transfer tubing has one end attached to an outer wall of a sampling apparatus tube, Applicants assert that amended Claim 34 is not obvious in view of Munson and Sakata. Therefore, Applicants respectfully submit that amended Claim 34 is patentably distinguished over the cited references and respectfully request allowance of amended Claim 34.

Claims 35-40 depend from Claim 34 and are believed to be patentable for the additional features recited therein.

REQUEST FOR TELEPHONE INTERVIEW

Pursuant to M.P.E.P. § 713.01, in order to expedite prosecution of this application, Applicants' undersigned attorney of record hereby formally requests a telephone interview with the Examiner as soon as the Examiner has considered the effect of the arguments presented above. Applicants' attorney can be reached at (949) 721-2998 or at the number listed below.

CONCLUSION

In view of the foregoing, the present application is believed to be in condition for allowance, and such allowance is respectfully requested. If further issues remain to be resolved, the Examiner is cordially invited to contact the undersigned such that any remaining issues may be promptly resolved.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 10/20/03

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